

After Takeoff

Out of 1,000' AGL

Climb at 90 KIAS After Passing Through 500' AGL

CRUISE CLIMB 90 KIAS
THROTTLE FULL
FLAPS UP CHECK

Cruise

THROTTLE SET
2300 RPM for local; 75% for XC.

ENGINE INSTRUMENTS CHECK
FUEL SELECTOR PROPER TANK
FUEL PUMP OFF / CHECK PRESSURE
LANDING LIGHT ON (for local training) / OFF (for XC cruise)
MIXTURE LEAN AS REQ

In-Range / Descent

For Cross-Country

ATIS/AWOS CHECK
APPROACH BRIEFING COMPLETE
ALTIMETER SET
AIRPORT DIAGRAM (keep available) CHECK
CARB HEAT AS REQ
SEAT BELTS FASTENED
MIXTURE SLIGHTLY ENRICH

Approach

Approx. 15 NM from Airport

ATIS/AWOS CHECK
APPROACH BRIEFING COMPLETE
ALTIMETER SET
AIRPORT DIAGRAM (keep available) CHECK
FUEL PUMP ON
FUEL SELECTOR PROPER TANK
MIXTURE SLIGHTLY ENRICH
PARKING BRAKE OFF
LANDING LIGHT ON

WHEN DIRECT TO IAF OR VECTORED

FLIGHT & NAV INSTRUMENTS SET / IDENT
GPS **CDI** (as req. for approach) VLOC OR GPS
AIRSPEED 90 KIAS

Before Landing Checklist

Never Switch Fuel Tanks Below Pattern Altitude

POWER AS REQUIRED
FLAPS (V_{FE} 102 KIAS) 25°
MIXTURE FWD
FUEL PUMP ON

Go Around / Missed Approach

THROTTLE FULL FWD
PITCH UP FOR CLIMB (76 KIAS)
FLAPS UP (0°)
FLY ASSIGNED OR PUBLISHED HEADING & ALTITUDE

After Landing

Stopped

FLAPS UP
TRIM CENTER
CARB HEAT OFF
MIXTURE LEAN FOR RPM RISE
STROBE LIGHT ON/DOWN
LANDING LIGHT AS REQ
FUEL PUMP OFF
TAXI CLEARANCE OBTAIN / BRIEF

Shutdown Terminate

TRANSPONDER 1200
AVIONICS MASTER OFF
FRESH AIR FAN OFF
THROTTLE 1000 RPM
MIXTURE CUTOFF
MAGNETOS OFF
LIGHT SWITCHES OFF
BATTERY MASTER OFF

G5 will begin to count down. DO NOT press
any button on the instrument.

WINDOW CLOSE
BLOCK-IN & MX REPORT SUBMITTED & CONF. REC'D
FLIGHT CONTROLS SECURE
SUNSCREENS INSTALL
G5 (IF EQUIPPED) COUNTING DOWN
TIEDOWN / CHOCK SECURE
WALKAROUND COMPLETE



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Preflight Inspection

BLOCK-OUT SUBMITTED & CONF. REC'D
WEATHER CHECK
EQUIPMENT REQUIRED CHECK
WEIGHT & BALANCE CHECK
FUEL QTY (full, unless limited by W&B) AS REQ
OIL QTY (6-8 qts., 6 qts. min.) CHECK
PERFORMANCE FIGURES COMPUTE

INTERIOR

Do Not Step on Flaps or Lean on Door

FIRE EXTINGUISHER CHECK
AIRCRAFT DOCUMENTS CHECK
POH/AFM CHECK
FUEL SELECTOR PROPER TANK
TRIM ELEV & RUDDER SET
FLAPS FULL DOWN (40°)
CARB HEAT OFF
MIXTURE CUTOFF
THROTTLE CLOSED
MAGNETOS & ALL SWITCHES OFF
PITOT/STATIC DRAIN / CHECK
BATTERY MASTER ON
LIGHTS (as req.) CHECK
FUEL GAUGES QTY CHECK
ANNUNCIATOR PANEL CHECK
PITOT HEAT (if IFR) CHECK
STALL WARNING HORN TEST
BATTERY MASTER OFF
FLIGHT CONTROLS CHECK
POSITION AILERON FULL LEFT DEFLECTION

Provides for visual inspection without manually moving aileron.

EXTERIOR

TOW BAR STOWED & SECURE
BAGGAGE DOOR SECURE
RIGHT WING CONDITION (rear, tip, & front) CHECK
Do not touch aileron. Control position allows for visual
inspection without manually moving aileron.

FUEL QTY INSPECT VISUALLY
FUEL TANK VENT CLEAR
FUEL TANK SUMP DRAIN
Check for water, sediment, proper color.
WING TIE DOWN REMOVE
Continued...

Preflight Inspection (Continued)

MAIN GEAR STRUT (approx. 4.5") & TIRE.....CHECK
 BRAKE BLOCK & DISC CHECK
 FRESH AIR INLET CLEAR
 NOSE COWLING CONDITION.....CHECK
 PROPELLER & SPINNER.....CHECK
 AIR INLETS CHECK
 NOSE GEAR STRUT (approx. 3.25") & TIRE.....CHECK
 OIL QTY (6 qts. min.).....CHECK
 DIPSTICK & OIL FILLER CAP SECURE
 FUEL STRAINER.....DRAIN
 LEFT WING CONDITION (rear, tip, & front).....CHECK

Do not touch aileron. Control position allows for visual inspection without manually moving aileron.

PITOT/STATIC MAST CHECK
 FRESH AIR INLET CHECK
 FUEL TANK SUMP DRAIN

Check for water, sediment, proper color.

FUEL TANK VENT CLEAR
 FUEL QTY INSPECT VISUALLY
 MAIN GEAR STRUT (approx. 4.5") & TIRE.....CHECK
 BRAKE BLOCK & DISC CHECK
 WING TIE DOWN REMOVE
 ANTENNAS.....CHECK
 EMPENNAGE.....CHECK
 STABILATOR & TRIM TAB CHECK
 AFT TIE DOWN REMOVE
 GENERAL WALKAROUND.....CHECK
 FLAPS RETRACT (0°)

Before Starting Engine

PREFLIGHT INSPECTION..... COMPLETE
 WT&BAL, DOCS, PERFORMANCE CHECK
 CELL PHONE AIRPLANE MODE
 PASSENGER BRIEF COMPLETE

Door, Emergency Exit, Seats & Seat belts,
 Fire Extinguisher, No Smoking, PIC Authority

SEATS & SEAT BELTS LOCKED / FASTENED
 AVIONICS MASTER..... OFF
 FRESH AIR FAN OFF
 ALTERNATE STATIC SOURCE.....OFF/FWD
 CIRCUIT BREAKERS.....CHECK
 SWITCHES OFF
 CARB HEAT OFF
 MIXTURE RICH/FULL FWD
 THROTTLE..... CLOSED
 BATTERY MASTER ON
 ALTERNATOR ON
 FIN STROBE ON/UP
 NAV LIGHTS (night only) AS REQ
 FUEL PUMP ON / CHECK PRESSURE
 MAGNETOS ON

Engine Start

COLD ENGINE.....PRIME 3-4 STROKES
 THROTTLE.....THREE FULL STROKES
 THROTTLE.....1/4" OPEN
 BRAKES..... HOLD
 PROP AREA..... CLEAR
 START (8 seconds max) ENGAGE

WHEN ENGINE STARTS

THROTTLE..... 1000 RPM
 OIL PRESSURE CHECK
 FUEL SELECTOR..... SWITCH TANKS

Confirm both tanks work.

FUEL PUMP OFF
 FUEL PRESSURE CHECK
 MIXTURE LEAN FOR RPM RISE
 THROTTLE..... 1000 RPM

After Start

AVIONICS MASTER.....ON
 FRESH AIR FAN/HEATER/DEFROST AS REQ
 HEADSETS ON
 ANNUNCIATOR PANEL TEST
 ALTERNATOR OUTPUT CHECK
 GPS DATABASE "OK?" (press)
 COMS SET 7 MHz
 ALTIMETERS SET
 CLEARANCE (If IFR) OBTAIN
 GPS ENTER WPT/FPL/APR AS REQ
 GPS (as req. for departure) VLOC OR GPS
 NAVS SET / COURSE SET
 FLIGHT INSTRUMENTS (TC/AI/HSI/VSI) CHECK
 TRANSPONDER.....SET CODE / ALT MODE

Taxi

Do Not Ride Brakes

AIRPORT DIAGRAM.....AVAILABLE
 TAXI CLEARANCE OBTAIN / BRIEF
 TAXI AREA(left & right) CLEAR
 BRAKES CHECK
 FLIGHT INSTRUMENTS (TC/AI/HSI/VSI) CHECK

Check in turns.

STERILE COCKPIT NO NON-ESSENTIAL CONVERSATION

Run Up

Do Not Use Parking Brake

BRAKES HOLD
 FUEL PUMP ON
 FUEL GAUGES / QTY CHECK
 FUEL SELECTOR.....VERIFY PROPER TANK
 MIXTURE FULL FWD
 THROTTLE..... 2000 RPM
 MAGNETOS (175 max drop, max diff. 50 RPM) CHECK
 CARB HEAT(approx. 75 RPM drop) CHECK
 ENGINE INSTRUMENTS CHECK
 AMMETER CHECK
 FUEL PUMP OFF
 FUEL PRESSURE CHECK
 ANNUNCIATOR PANEL CHECK
 THROTTLE..... 1000 RPM
 MIXTURE LEAN FOR RPM RISE
 G5 (IF EQUIPPED).....FULL BATTERY
 FLIGHT CONTROLS CHECK

IN THE EVENT OF AN ENGINE FAILURE OR ABNORMALITY PRIOR TO ROTATION
 THROTTLE.....IMMEDIATELY CLOSED
 BRAKE AS REQ
 STOP STRAIGHT AHEAD
IF NOT ENOUGH RUNWAY REMAINS TO STOP
 MIXTURE IDLE CUTOFF
 FUEL SELECTOR ROTATE TO OFF
 MAGNETOS OFF
 BATTERY MASTER OFF
 AVOID OBSTACLES
ENGINE FAILURE AFTER ROTATION WITH SUFFICIENT RUNWAY REMAINING FOR A COMPLETE STOP
 THROTTLE.....IMMEDIATELY CLOSED
 LAND STRAIGHT AHEAD
 BRAKE AS REQ
ENGINE FAILURE AFTER ROTATION WITH NO RUNWAY REMAINING
 AIRSPEED PITCH FOR BEST GLIDE (76 KIAS)
 FUEL SELECTOR ROTATE OFF
 MIXTURE IDLE CUTOFF
 MAGNETOS OFF
 FLAPS ADJUST
 BATTERY MASTER ADJUST
 LAND AT LOWEST POSSIBLE AIRSPEED, STRAIGHT AHEAD, & AVOID OBSTACLES

Pre-Takeoff Brief

Before Takeoff

PRE-TAKEOFF BRIEF..... COMPLETE

FLIGHT INSTRUMENTS CHECK
 FUEL PUMP ON
 TRIM..... ONE, TWO, SET
 FLAPS AS REQ
 CARB HEAT OFF
 GPS (D) to WPT/PROC for APR/FPL to activate) SET
 GPS (CDI) (as req. for departure) VLOC OR GPS
 HSI / COURSE..... SET
 DEPARTURE BRIEF
 | Initial Altitude & Heading Bugs
 | Brief Departure Procedure COMPLETE
 MIXTURE FULL FWD (OR SET FOR ALTITUDE)
 ENGINE INSTRUMENTS CHECK
 SEAT BELTS & SHOULDER HARNESS..... FASTENED

FINAL ITEMS WHEN #1 FOR TAKEOFF

DOOR & WINDOW SECURE
 LANDING LIGHT ON
 STROBE LIGHT ON/UP
 TRANSPONDER..... ALT

Electrical Failures

ALT Annunciator Illuminated

AMMETER.....CHECK TO VERIFY INOP ALTERNATOR
IF AMMETER READS ZERO

ALTERNATOR OFF
 ELECTRICAL LOADS REDUCE TO MINIMUM
 ALT CIRCUIT BREAKER.....CHECK / RESET IF NECESSARY
 ALTERNATOR ON

IF POWER NOT RESTORED

ALTERNATOR OFF
 Anticipate electrical failure.

DECLARE EMERGENCY, EXIT IMC, LAND AS SOON AS POSSIBLE

Electrical Overload

Alternator 20 AMPs Above Known Electrical Load

ALTERNATOR ON
 BATTERY MASTER OFF

IF ALTERNATOR LOADS ARE REDUCED

ELECTRICAL LOAD.....REDUCE TO MINIMUM
 LAND AS SOON AS PRACTICAL

IF ALTERNATOR LOADS ARE NOT REDUCED

ALTERNATOR OFF
 BATTERY MASTER AS REQ

Anticipate electrical failure.

DECLARE EMERGENCY, EXIT IMC, LAND AS SOON AS POSSIBLE

Electrical Failure

STANDBY INSTRUMENTS.....USE
 DECLARE EMERGENCY, EXIT IMC, LAND AS SOON AS POSSIBLE

AHRS Failure

G5.....USE
 PFD HSI.....VERIFY AGAINST MAG COMPASS
 APPROACH.....ACCOMPLISH
 Visual, ILS, GPS, LOC, VOR approaches available.

PFD Failure

STANDBY INSTRUMENTS.....USE
 G430 NAV 1 PAGE SELECT (HOLD CLR FOR 3 SECS)
 G430 CDI.....USE FOR NAVIGATION
 APPROACH.....ACCOMPLISH
 Visual, GPS approaches available.

ADC Failure

STANDBY AIRSPEED INDICATOR.....USE
 STANDBY ALTIMETER.....USE
 APPROACH.....ACCOMPLISH
 Visual, ILS, GPS, LOC, VOR approaches available.

Pattern Work

Touch & Go's Prohibited Except With Instructor

Before Landing Checklist

Never Switch Fuel Tanks Below Pattern Altitude

POWER.....AS REQUIRED
 FLAPS(V_{FE} 102 KIAS) 25°
 MIXTURE.....FWD
 FUEL PUMP ON

Go Around / Missed Approach

THROTTLE.....FULL FWD
 PITCH.....UP FOR CLIMB (76 KIAS)
 FLAPS UP (0°)
 FLY ASSIGNED OR PUBLISHED HEADING & ALTITUDE

Touch & Go

MAINTAIN CENTERLINE
 FLAPS UP
 CARB HEAT OFF
 THROTTLE.....FULL

Standardized Speeds

90 KIAS DOWNWIND, FLAPS 0°
 70-80 KIAS FLAPS 25° - 1500 RPM
 70 KIAS TURNING BASE, FLAPS 25°
SHORT FINAL UNTIL
 66 KIAS 10-20' ABOVE RUNWAY

WHEN LANDING ASSURED

SOFT FIELD.....66 KIAS - FLAPS 40°
 SHORT FIELD.....66 KIAS - FLAPS 40°

After Landing (Stopped)

FLAPS UP
 TRIM.....CENTER
 CARB HEAT OFF
 MIXTURE LEAN FOR RPM RISE
 STROBE LIGHT ON/DOWN
 LANDING LIGHT AS REQ
 FUEL PUMP OFF
 TAXI CLEARANCE OBTAIN / BRIEF

Before Takeoff

PRE-TAKEOFF BRIEF.....COMPLETE
 FLIGHT CONTROLS.....CHECK
 FLIGHT INSTRUMENTS.....CHECK
 FUEL PUMP ON
 TRIM.....ONE, TWO, SET
 FLAPS AS REQ
 CARB HEAT OFF
 GPS (to WPT/PROC for APR/FPL to activate) SET
 GPS CDI.....(as req. for departure) VLOC OR GPS
 HSI / COURSE.....SET
 DEPARTURE BRIEF
 Initial Altitude & Heading Bugs
 Brief Departure Procedure.....COMPLETE
 MIXTURE.....FULL FWD (OR SET FOR ALTITUDE)
 ENGINE INSTRUMENTS.....CHECK
 SEAT BELTS & SHOULDER HARNESS.....FASTENED

FINAL ITEMS WHEN #1 FOR TAKEOFF

DOOR & WINDOW SECURE
 LANDING LIGHT ON
 STROBE LIGHT ON/UP
 TRANSPONDER.....ALT



PIPER ARCHER

Emergency & Abnormal Checklist

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Engine Failure During Takeoff Roll

THROTTLE.....IDLE
 BRAKES.....APPLY
 MIXTURE.....IDLE CUTOFF
 MAGNETOS OFF
 BATTERY MASTER.....OFF

Engine Failure After Takeoff

MAINTAIN AIRCRAFT CONTROL
 AIRSPEED BEST GLIDE.....76 KIAS
 INSUFFICIENT ALTITUDE.....
PERFORM POWER-OFF LANDING

IF TIME & ALTITUDE ALLOWS

FUEL SELECTOR.....CHECK SELECTED TANK
 FUEL PUMP CHECK ON
 MIXTURE.....CHECK RICH
 CARB HEAT ON

If power is not restored, prepare for Power-Off Landing.

Power-Off Landing

Emergency Landing Without Power

AIRSPEED BEST GLIDE.....76 KIAS
 LANDING AREA.....SELECT / INSPECT

WHEN COMMITTED TO LANDING

FLAPS.....AS DESIRED
 THROTTLE.....CLOSE
 MIXTURE.....IDLE CUTOFF
 MAGNETOS OFF
 BATTERY MASTER.....OFF
 ALTERNATOR OFF
 FUEL SELECTOR.....OFF
 SEAT BELTS & SHOULDER HARNESS.....TIGHTENED
 TOUCH DOWN.....LOWEST POSSIBLE AIRSPEED

Spin Recovery

RUDDER FULL OPPOSITE OF SPIN
ELEVATOR FULL FWD

While Simultaneously

AILERONS NEUTRAL
THROTTLE IDLE

WHEN ROTATION STOPS

RUDDER NEUTRAL
ELEVATOR AS REQ TO SMOOTHLY REGAIN
LEVEL FLIGHT ATTITUDE

Loss of Fuel Pressure

FUEL PUMP ON
FUEL SELECTOR CHECK ON FULL TANK

Loss of Oil Pressure

LAND AS SOON AS POSSIBLE
PREPARE FOR POWER OFF-LANDING PROCEDURE

High Oil Temperature

LAND AS SOON AS POSSIBLE
PREPARE FOR POWER OFF-LANDING PROCEDURE

Open Door

AIRSPED SLOW TO 87 KIAS
CABIN VENTS CLOSE
STORM WINDOW OPEN
LOWER LATCH OPEN PULL ON ARMREST / LATCH
UPPER LATCH OPEN LATCH

Cleaning Fouled Spark Plugs

(CAUTION: Hold brakes securely and remain vigilant for aircraft movement;
only perform runup on surface free from gravel/dirt.)

THROTTLE 2000 RPM
MIXTURE LEAN FOR SLIGHT RPM DROP
MAINTAIN FOR 60 SECONDS
MIXTURE FULL FWD
PERFORM MAGNETO CHECK

Note:

While performing the above checklist, do not allow oil temperature to reach redline and be vigilant of oil pressure.

Carburetor Icing

CARB HEAT ON FULL
MIXTURE ADJUST FOR MAXIMUM SMOOTHNESS

Engine Running Roughly

MAINTAIN AIRCRAFT CONTROL
CARB HEAT ON

IF ROUGHNESS CONTINUES AFTER 1 MINUTE

CARB HEAT OFF
MIXTURE ADJUST FOR MAXIMUM SMOOTHNESS
FUEL PUMP ON
FUEL SELECTOR SWITCH TANKS / CHECK PRESSURE
ENGINE INSTRUMENTS CHECK
MAGNETOS CHECK LEFT / CHECK RIGHT

If operation is satisfactory on either magneto, continue on that magneto at reduced power and full RICH mixture to first airport.

PREPARE FOR POWER-OFF LANDING PROCEDURE

Engine Power Loss In-Flight

IF AT LOW ALTITUDE (BELOW 3000' AGL)

AIRSPED MAINTAIN 76 KIAS MINIMUM

IF ALTITUDE PERMITS (ABOVE 3000' AGL)

FUEL SELECTOR SWITCH TO TANK CONTAINING FUEL
FUEL PUMP ON
MIXTURE RICH
CARB HEAT ON
ENGINE INSTRUMENTS
..... CHECK FOR INDICATION OF CAUSE OF POWER LOSS

If no fuel pressure is indicated, check fuel selector position to be sure it is on a tank containing fuel. If power is not restored prepare for a Power-Off Landing.

Power-Off Landing

AIRSPED BEST GLIDE 76 KIAS
LANDING AREA SELECT / INSPECT

WHEN COMMITTED TO LANDING

FLAPS AS DESIRED
THROTTLE CLOSE
MIXTURE IDLE CUTOFF
MAGNETOS OFF
BATTERY MASTER OFF
ALTERNATOR OFF
FUEL SELECTOR OFF
SEAT BELTS & SHOULDER HARNESS TIGHTENED
TOUCH DOWN LOWEST POSSIBLE AIRSPEED

Fires

Engine Fire During Start

STARTER CRANK ENGINE
MIXTURE IDLE CUTOFF
THROTTLE OPEN
FUEL PUMP OFF
FUEL SELECTOR OFF
ABANDON IF FIRE CONTINUES

Electrical Fire In-Flight

(Smoke in Cabin)

BATTERY MASTER OFF
ALTERNATOR OFF
VENTS OPEN
CABIN HEAT OFF
STORM WINDOW OPEN IF REQ
LAND AS SOON AS POSSIBLE

Engine Fire In-Flight

FUEL SELECTOR OFF
THROTTLE CLOSED
MIXTURE IDLE CUTOFF
FUEL PUMP OFF
HEATER & DEFROSTER OFF
AIRSPEED BEST GLIDE 76 KIAS
PREPARE FOR POWER-OFF LANDING PROCEDURE